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Attorney's Docket No. LBL-IB-1498-1

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Box Patent Application

Assistant Commissioner for Patents

Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of Inventor(s):

WENBING YUN; JOHN SPENCE; HOWARD A. PADMORE; ALASTAIR A.
MacDOWELL; MALCOLM R. HOWELLS

For (title):

METHOD FOR NANOMACHINING HIGH ASPECT RATIO STRUCTURES

1. **Type of Application**

This new application is for a(n):

- ☒ Original (nonprovisional)
☐ Design
☐ Plant
☐ Divisional
☐ Continuation
☐ Continuation of PCT designating US
☐ Continuation-in-part (CIP)

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date August 9, 2001 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EL484718562US addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

John P. O'Banion

(Type or print name of person mailing paper)


(Signature of person mailing paper)

NOTE: Each paper or fee referred to as enclosed herein has the number of the "Express Mail" label placed thereon prior to mailing. 37 CFR 1.10(b).

2. **Papers Enclosed Which Are Required For Filing Date Under 37 CFR 1.53(b) (Regular) or 37 CFR 1.153 (Design) Application**

16 Pages of specification

14 Pages of claims

1 Pages of Abstract

1 Sheets of drawing

X formal

— informal

— The enclosed drawing(s) include photograph(s), and there is also attached a "PETITION TO ACCEPT PHOTOGRAPH(S) AS DRAWING(S)." 37 C.F.R. 1.84(b).

3. **Additional papers enclosed**

— Preliminary Amendment

— Information Disclosure Statement

— Form PTO - 1449

— Citations

— Authorization of Attorney(s) to Accept and Follow Instructions from Representative

— Special Comments

— Other

4. **Declaration Or Oath**

— Enclosed

executed by:

— inventor(s)

— legal representative of inventor(s). 37 CFR 1.42 or 1.43.

— joint inventor or person showing a proprietary interest on behalf of inventor who refused to sign or cannot be reached.

— this is the petition required by 37 CFR 1.47 and the statement required by 37 CFR 1.47 is also attached. (See item 18 below for fee.)

☐ Copy from a prior application (37 CFR 1.63(d)) (divisional or continuation only)

☒ Not Enclosed.

☒ Application is made by a person authorized under 37 CFR 1.41(c) on behalf of all of the above named inventor(s). (The declaration or oath, along with the surcharge required by 37 CFR 1.16(e) can be filed subsequently).

☐ Attached is a showing that the filing is authorized. (Not required unless called into question. 37 CFR 1.41(d)).

5. Inventorship Statement

The inventorship for all the claims in this application are:

☒ The same

or

☐ Are not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made,

☐ is submitted.

☐ will be submitted.

6. Language

☒ English

☐ non-English

☐ the attached translation is a verified translation. 37 CFR 1.52(d).

7. Assignment

☒ An assignment of the invention to: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

☐ is attached. A separate "ASSIGNMENT COVER LETTER ACCOMPANYING NEW PATENT APPLICATION" is also attached.

☒ will follow.

8. Benefit of Prior U.S. Application(s) (35 U.S.C. 119(e), 120 or 121)

NOTE: "In order for an application to claim the benefit of a prior filed copending national application, the prior application must name as an inventor at least one inventor named in the later filed application and disclose the named inventor's invention claimed in at least one claim of the later filed application in the manner provided by the first paragraph of 35 U.S.C. 112." 37 CFR 1.78(a).

NOTE: "In addition, the prior application must be (1) complete as set forth in § 1.51, or (2) entitled to a filing date as set forth in § 1.53(b) and include the basic filing fee set forth in § 1.16, or (3) entitled to a filing date as set forth in § 1.53(b) and have paid therein the processing and retention fee set forth in § 1.21(l) within the time set forth in § 1.53(d)." 37 CFR 1.78(a).

NOTE: "Any nonprovisional application claiming the benefit of one or more prior filed copending provisional applications must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior provisional application, identifying it as a provisional application, and including the provisional application number (consisting of the series code and serial number) and filing date." 37 CFR 1.78(a)(4).

NOTE: "Any nonprovisional application claiming the benefit of one or more prior filed copending nonprovisional applications or international applications designating the United States of America must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior application, identifying it by application number (consisting of the series code and serial number) and filing date or international application number and international filing date and indicating the relationship of the applications. Cross-references to other related applications may be made where appropriate. (See §1.14(b))." 37 CFR 1.78(2).

X Applicant(s) hereby claim(s) the benefit of the filing date of prior U.S. Application Serial No. 60/224,730 filed on AUGUST 11, 2001.

(a) Application History (title as originally filed and as last amended, serial number, and filing date of all prior applications):

Title: NANOMACHINING OF HIGH ASPECT RATIO STRUCTURES AND ITS APPLICATION TO PRODUCTION OF HIGH PERFORMANCE Z-RAY ZONE PLATES
Ser. No.: 60/224,730
Filed: AUGUST 11, 2001

(b) Name of applicant(s) (as originally filed and as last amended), and current correspondence address of applicant(s):

Name: WENBING YUN
Address: 2812 FILBERT DRIVE
WALNUT CREEK, CA 94598

Name: JOHN C. SPENCE
Address: 2010 S. LA ROSA DRIVE
TEMPE, AZ 85282

Name: HOWARD A. PADMORE
Address: 1910 SAN ANTONIO DRIVE
BERKELEY, CA 94720

Name: ALASTAIR A. MacDOWELL
Address: 1836 DELAWARE STREET
BERKELEY, CA 94703

Name: MALCOLM R. HOWELLS
Address: 1868 CATALINA AVENUE
BERKELEY, CA 94707

NOTE: The proper reference to a prior filed PCT application which entered the U.S. national phase is the U.S. serial number and the filing date of the PCT application which designated the U.S.

NOTE: (1) Where the application being transmitted adds subject matter to the International Application then the filing can be as a continuation-in-part or (2) it is desired to do so for other reasons, then the filing can be as a continuation.

NOTE: The deadline for entering the national phase in the U.S. for an international application was clarified in the Notice of April 28, 1987 (1079 O.G. 32 to 46) as follows:

"The Patent and Trademark Office considers the international application to be pending until the 22nd month from the priority date if the United States has been designated and no Demand for International Preliminary Examination has been filed prior to the expiration of the 19th month from the priority date and until the 32nd month from the priority date if a Demand for International Preliminary Examination which elected the United States of America has been filed prior to the expiration of the 19th month from the priority date, provided that a copy of the international application has been communicated to the Patent and Trademark Office within the 20 or 30 month period respectively. If a copy of the international application has not been communicated to the Patent and Trademark Office within the 20 or 30 month period, respectively, the international application becomes abandoned as to the United States 20 or 30 months from the priority date, respectively. These periods have been placed in the rules as paragraph (h) of § 1.494 and paragraph (i) of § 1.495. A continuing application under 35 U.S.C. 365(c) and 120 may be filed anytime during the pendency of the international application."

9. Priority Claim for Prior Application (35 U.S.C. 119)

— The prior U.S. application(s), including any prior International Application designating the U.S. identified above in item 8, in turn itself claim(s) foreign priority (ies) as follows:

(country)	(appln. no.)	(filed on)
(country)	(appln. no.)	(filed on)
(country)	(appln. no.)	(filed on)

The certified copy (ies)

- is (are) attached.
- has (have) been filed on _____ in prior application serial number _____ which was filed on _____.
- will follow.

WARNING: The certified copy of the priority application which may have been communicated to the PTO by the International Bureau may not be relied on without the need to file a certified copy of the priority application in a continuing application. This is so because the certified copy of the priority application communicated by the International Bureau is placed in a folder and is not assigned a U.S. serial number unless the national stage is entered. Such folders are disposed of if the national stage is not entered. Therefore, such certified copies may not be available if needed later in the prosecution of a continuing application. An alternative would be to physically remove the priority documents from the folders and transfer them to the continuing application. The resources required to request transfer, retrieve the folders, make suitable record notations, transfer the certified copies, enter and make a record of such copies in the continuing application are substantial. Accordingly, the priority documents in folders of international applications which have not entered the national stage may not be relied on. Notice of April 28, 1987 (1079 O.G. 32 to 46).

10. Further Inventorship Statement Where Benefit of Prior Application(s) Claimed

NOTE: "If the continuation, continuation-in-part, or divisional application is filed by less than all the inventors named in the prior application, a statement must accompany the application when filed requesting deletion of the names of the person or persons who are not inventors of the invention being claimed in the continuation, continuation-in-part, or divisional application." 37 CFR 1.62(a) [emphasis added] (dealing with the file wrapper continuation situation).

NOTE: "In the case of a continuation-in-part application which adds and claims additional disclosure by amendment, an oath or declaration as required by § 1.63 must be filed. In those situations where a new oath or declaration is required due to additional subject matter being claimed, additional inventors maybe named in the continuing application. In a continuation or divisional application which discloses and claims only subject matter disclosed in a prior application, no additional oath or declaration is required and the application must name as inventors the same or less than all the inventors in the prior application." 37 CFR 1.60(c). (dealing with the continuation situation)

(complete applicable item (a) or (b) below)

(a) ☐ This application discloses and claims only subject matter disclosed in the prior application whose particulars are set out above and the inventor(s) in this application are

☐ the same

☐ less than those named in the prior application and it is requested that the following inventor(s) identified above for the prior application be deleted:

Name:

Name:

Name:

(b) ☐ This application discloses and claims additional disclosure and a new declaration or oath is being filed. With respect to the prior application whose particulars are set out above, the inventors in this application are

☐ the same

☐ add the following inventors

Name:

Name:

Name:

11. Maintenance of Copendency of Prior Application

NOTE: The PTO finds it useful if a copy of the petition filed in the prior application extending the term for response is filed with the papers constituting the filing of the continuation application. Notice of November 5, 1985 (1060 O.G. 27).

☐ Extension of time in prior application

(This item must be completed and the necessary papers filed in the prior application if the period set in the prior application has run)

☐ A petition, fee and response has been filed to extend the term in the prior application until _____.

☐ A copy of the petition for extension of time in the prior application is attached.

(complete this item and file conditional petition in prior application if previous item not applicable)

☐ Conditional Petition For Extension Of Time In Prior Application

☐ A conditional petition for extension of time is being filed in the pending prior application.

12. Abandonment of Prior Application (if applicable)

— Please abandon the prior application at a time while the prior application is pending or when the petition for extension of time or to revive in that application is granted and when this application is granted a filing date so as to make this application copending with said prior application.

NOTE: According to the Notice of May 13, 1983, (103, TMOG 6-7), the filing of a continuation or continuation-in-part application is a proper response with respect to a petition for extension of time or a petition to revive and should include the express abandonment of the prior application conditioned upon the granting of the petition and the granting of a filing date to the continuing application.

NOTE: "A registered attorney or agent acting under the provisions of § 1.34(a), or of record, may also expressly abandon a prior application as of the filing date granted to a continuing application when filing such a continuing application." 37 CFR 1.138.

13. Petition For Suspension Of Prosecution For The Time Necessary To File An Amendment (if applicable)

WARNING: "The claims of a new application may be finally rejected in the first Office Action in those situations where (1) the new application is a continuing application of, or a substitute for, an earlier application, and (2) all the claims of the new application (a) are drawn to the same invention claimed in the earlier application, and (b) would have been properly rejected on the grounds of art of record in the next Office Action if they had been entered in the earlier application." MPEP § 706.07(b).

NOTE: Where it is possible that the claims on file will give rise to a first action final for this continuation application and for some reason an amendment cannot be filed promptly (e.g., experimental data is being gathered) it may be desirable to file a petition for suspension of prosecution for the time necessary.

(check the next item, if applicable)

— There is provided herewith a Petition to Suspend Prosecution For The Time Necessary To File An Amendment (New Application Filed Concurrently)

14. Notification in Parent Application of this Filing (if applicable)

— A notification of the filing of this application is being filed in the parent application from which this application claims priority under 35 U.S.C. 120.

15. Fee Calculation (37 CFR 1.16)

A. X Regular Application

CLAIMS AS FILED							
	Number filed		Number Extra		Rate		Basic Fee \$ 710.00
Total							
Claims 37 CFR 1.16(c)	80 - 20	=	60	X	\$18.00	=	1,080.00
Independent							
Claims (37 CFR 1.16(b))	3 - 3	=	0	X	\$80.00	=	
Multiple dependent claim(s), if any (37 CFR 1.16(d))				+	\$270.00	=	

- Amendment canceling extra claims enclosed.
- Amendment deleting multiple-dependencies enclosed.
- Fee for extra claims is not being paid at this time.

Filing Fee Calculation \$ 1,790.00

B. — Design application
(\$320.00 - 37 CFR 1.16(f))

Filing Fee Calculation \$ _____

C. — Plant application
(\$490.00 - 37 CFR 1.16(g))

Filing Fee Calculation \$ _____

16. Small Entity Statement(s)

X Applicant qualifies as a small entity under 37 CFR 1.9 and 1.27

— Status as a small entity was claimed in prior application serial number _____
filed on _____, from which benefit is being claimed for this
application under 35 U.S.C. 119(e), 120, 121 or 365(c) and which status as a small entity
is still proper and desired. A copy of the verified statement in the prior application is
included.

Filing Fee Calculation (50% of A, B or C above) \$ 895.00

17. Request for International-Type Search (37 CFR 1.104(d))

☐ Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

18. Fee Payment Being Made At This Time

☒ Not Enclosed

☒ No filing fee is to be paid at this time. (This and the surcharge required by 37 CFR 1.16(e) can/will be paid subsequently.)

☐ Enclosed

☐ basic filing fee \$ _____

☐ recording assignment (\$40.00; 37 CFR 1.21(h)) \$ _____

☐ petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached. (\$130.00; 37 CFR 1.47 and 1.17(h)) \$ _____

☐ for processing an application with a specification in a non-English language. (\$130.00; 37 CFR 1.52(d) and 1.17(k)) \$ _____

☐ processing and retention fee (\$130.00; 37 CFR 1.53(d) and 1.21(l)) \$ _____

☐ fee for international-type search report. (\$40.00; 37 CFR 1.21(e)) \$ _____

Total Fees Enclosed \$ _____

19. Method of Payment of Fees

☐ Check in the amount of \$ _____

☐ Charge Account No. _____ in the amount of \$ _____.
A duplicate of this transmittal is attached.

20. Authorization to Charge Additional Fees

☐ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. _____;

☐ 37 CFR 1.16(a), (f) or (g) (filing fees)

☐ 37 CFR 1.16(b), (c) and (d) (presentation of extra claims)

- ☐ 37 CFR 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)
- ☐ 37 CFR 1.18 (application processing fees)
- ☐ 37 CFR 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 CFR 1.311(b))

21. Instructions As To Overpayment

- ☐ credit Account No. _____
- ☒ refund

22. Incorporation By Reference of Papers Identified Herein

Applicant(s) hereby incorporate(s) by reference all papers which are identified in this New Application Transmittal.

23. Correspondence Address

Please use the following correspondence address for all communications:

**John P. O'Banion, Reg. No. 33,201
O'BANION & RITCHEY LLP
400 Capitol Mall, Suite 1550
Sacramento, CA 95814
(916) 498-1010**

Dated: August 9, 2001



SIGNATURE OF ATTORNEY

John P. O'Banion, Reg. No. 33,201

CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)Applicant(s): **WENBING YUN ET AL.**

Docket No.

LBL-IB-1498-1

Serial No.

Filing Date

Examiner

Group Art Unit

Invention: **METHOD FOR NANOMACHINING HIGH ASPECT RATIO STRUCTURES**

I hereby certify that the following correspondence:

SPECIFICATION (Page 1 thru 16); CLAIMS (Page 17 thru 30); ABSTRACT (Page 31)*(Identify type of correspondence)*

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: The Assistant Commissioner for Patents, Washington, D.C. 20231 on

August 9, 2001*(Date)***JOHN P. O'BANION***(Typed or Printed Name of Person Mailing Correspondence)**(Signature of Person Mailing Correspondence)***EL484718562US***("Express Mail" Mailing Label Number)***Note: Each paper must have its own certificate of mailing.**

CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)Applicant(s): **WENBING YUN ET AL.**

Docket No.

LBL-IB-1498-1

Serial No.

Filing Date

Examiner

Group Art Unit

Invention: **METHOD FOR NANOMACHINING HIGH ASPECT RATIO STRUCTURES**

I hereby certify that the following correspondence:

DRAWING SHEET (Sheet 1)*(Identify type of correspondence)*

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: The Assistant Commissioner for Patents, Washington, D.C. 20231 on

August 9, 2001*(Date)***JOHN P. O'BANION***(Typed or Printed Name of Person Mailing Correspondence)*
*(Signature of Person Mailing Correspondence)***EL484718562US***("Express Mail" Mailing Label Number)***Note: Each paper must have its own certificate of mailing.**